REMARKS

The present application was filed on August 14, 2001 with claims 1-20. Claims 1 through 20 are presently pending in the above-identified patent application. Claims 1, 5, 8, 11, 12, and 17-20 are proposed to be amended and new claims 21-24 are proposed to be added herein.

In the Office Action, the Examiner rejected claims 19 and 20 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter, rejected claims 5-10 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement, and rejected claims 8-10 and 12 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected claims 1-3, 5-7, 11, and 13-20 under 35 U.S.C. §102(e) as being anticipated by Nations et al. (United States Patent Number 6,879,808), rejected claims 4 and 8-10 under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Sen et al. (United States Patent Number 6,691,312), and rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Shimomura et al. (United States Patent Number 6,526,580).

Section 101 Rejections

Claims 19 and 20 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

Claims 19 and 20 require a *computer readable medium having computer readable code means embodied thereon*, and are therefore limited to *tangible* embodiments. Claims 19 and 20 are therefore directed to statutory subject matter and Applicants respectfully request that the section 101 rejections be withdrawn.

Section 112 Rejections

Claims 5-10 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Claims 8-10 and 12 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 5-7, the Examiner asserts that the specification failed to disclose determining a server cache size limit. Regarding claims 8-10, the Examiner asserts that the specification failed to disclose determining an estimated client cache size limit. Also,

regarding claim 8, the Examiner asserts that the term "estimated client-side cache limit" is ambiguous and that it is not clear what the estimated value actually represents since data is broadcast to a plurality of clients and not just one client. The Examiner further asserts (regarding claim 8) that the limitation "waiting for a drain interval when said estimated client-side cache size limit is reached" is ambiguous, that it is not clear what waits for the interval to expire, and that the term "drain" is ambiguous. Regarding claim 12, the Examiner asserts that the claim as written is indefinite and that it is presumed that content is determined to be of interest to the user when a category of said content matches one or more categories selected by said user.

Claims 5 and 8 have been amended to require specifying a server cache size limit and specifying an estimated client cache size limit, respectively.

Regarding the Examiner's assertion that the term "estimated client-side cache limit" is ambiguous, Applicants note that the present disclosure teaches that, from the servers viewpoint, a "virtual" client cache is modeled and that this model has data attributes, e.g. cache size. (Page 13, line 3, to page 15, line 2, of the originally filed disclosure.) In light of the present disclosure, a person of ordinary skill in the art would recognize that an "estimated client-side cache limit" is a user defined parameter that is set based on the characteristics of the deployed client systems. The selection of an "estimated client-side cache limit" is beyond the scope of the present invention.

Applicants also note that the present disclosure teaches that "the ***process 700 waits*** for the drain interval UCacheDrainInterval before going back to 703." (Page 15, lines 1-2; emphasis added.) Process 700 is responsible for updating the URL table asynchronously from the actual transmission of data. (The data is transmitted according to the URL table asynchronously from the management of the URL table.) The present disclosure teaches, for example, that "the state variable, ScacheSize, defines the number of bytes over which the broadcast edge server 400 will carousel. That is, over time, the first n entries in the URLTable 500 whose accumulated storage requirements do not exceed the state variable, ScacheSize, will be repeatedly broadcast." (Page 10, lines 15-18.) The data is "broadcast" in step 705 and the method continues immediately, even though the broadcast takes time. Process 700 waits only when the computation indicates that the value of the UCacheModel is less than the constant UCacheSize (see, FIG. 7),

i.e., when the destination cache is believed to be full (the cache is assumed to be continuously draining *in the model*; in practice, the operation is beyond the scope of the present invention). Notice that UCacheSize need NOT be the same size as the actual client cache; it can be larger or smaller.

Claim 12 has also been amended to require wherein said step of storing said received content compares a category of said *received* content to one or more categories selected by said user.

Applicants believe that the cited amendments and arguments address the Examiner's concerns and respectfully request that the section 112 rejections be withdrawn.

Independent Claims 1, 5, 8, 11 and 17-20

Independent claims 1, 5, 11, and 17-20 were rejected under 35 U.S.C. §102(e) as being anticipated by Nations et al., and claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Sen et al. Regarding claims 1, 17, and 19, the Examiner asserts that Nations discloses broadcasting said content of interest to multiple users (col. 9, lines 64, to col. 10, line 7) for storage in a client-side cache (col. 8, lines 52-58).

Applicants note that Nations teaches "to automatically broadcast ***the most requested information*** (such as a predetermined number of the most requested web pages, for example) to terminals in a substantially real-time manner." (col. 3, lines 48-51; emphasis added.) Independent claims 1, 5, 8, 11 and 17-20, as amended, require wherein said broadcast of said content is ***prioritized based on a hit rate*** of said content. The present disclosure teaches that

> the recent hit rate field 502 contains a value representing the hit rate for this particular URL over some recent period. It is assumed that the recent hit rate is a real number in the range [0..1], where a value of zero indicates a very low hit rate and a value of one indicates a very high hit rate.
> (Page 9, lines 24-27.)

The present disclosure also teaches that "in an exemplary implementation, the recent hit rate is *computed by dividing the number of URL hits (as measured by the cache over the*

past hour) by the previous all time peak rate for any URL over any hour." (Page 10, line 26, to page 11, line 2; emphasis added.)

Thus, Nations et al. and Sen et al., alone or in combination, does not disclose or suggest wherein said broadcast of said content is prioritized based on a hit rate of said content, as required by independent claims 1, 5, 8, 11 and 17-20, as amended.

Additional Cited References

Sen et al. was also cited by the Examiner for its disclosure of a system for broadcasting content to multiple users simultaneously based on a derived transmission schedule. Sen, however, does not address the issue of broadcasting content that is ***prioritized based on a hit rate*** of the content.

Thus, Sen et al. do not disclose or suggest wherein said broadcast of said content is prioritized based on a hit rate of said content, as required by independent claims 1, 5, 8, 11 and 17-20, as amended.

Shimomura et al. was also cited by the Examiner for its disclosure of a content broadcasting service where broadcasted content is stored (cached) *if the content matches a category (interest parameters) selected by the user.* Independent claims 1, 5, 8, 11 and 17-20, as amended, require wherein said broadcast of said content is ***prioritized based on a hit rate*** of said content.

Thus, Shimomura et al. do not disclose or suggest wherein said broadcast of said content is prioritized based on a hit rate of said content, as required by independent claims 1, 5, 8, 11 and 17-20, as amended.

New Claims 21-24

New claims 21-24 have been added to more particularly point out and distinctly claim various features of the invention, consistent with the scope of the originally filed specification, in order to give applicants the protection to which they are entitled. No new matter is introduced. Support for this material is set forth at pages 8-10 of the originally filed specification. More specifically, claims 21-24 recite wherein said broadcast of said content is based on one or more of the following: a refresh rate and a time of last broadcast, a state of a cache model, and a broadcast profile.

As described above, Applicants note that Nations teaches to automatically broadcast ***the most requested information.*** Nations, Sen and Shimomura do not address

the issues of broadcasting content *based on a broadcast profile*, broadcasting content *based on a state of a cache model*, or broadcasting content *based on a refresh rate and a time of last broadcast*.

Thus, Nations et al., Sen et al., and Shimomura et al., alone or in combination, do not disclose or suggest wherein said broadcast of said content is based on one or more of the following: a refresh rate and a time of last broadcast, a state of a cache model, and a broadcast profile, as required by new claims 21-24.

Allowance of claims 21-24 is believed to be warranted.

Dependent Claims 2-4, 6-7, 9-10 and 12-16

Dependent claims 2-3, 6-7, and 13-16 were rejected under 35 U.S.C. §102(e) as being anticipated by Nations et al., claims 4 and 9-10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Sen et al., and claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Shimomura et al.

Claims 2-4 and new claim 21, claims 6-7 and new claim 22, claims 9-10 and new claim 23, and claims 12-16 and new claim 24 are dependent on claims 1, 5, 8, and 11, respectively, and are therefore patentably distinguished over Nations et al., Sen et al., and Shimomura et al. (alone or in any combination) because of their dependency from amended independent claims 1, 5, 8, and 11 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

All of the pending claims following entry of the amendments, i.e., claims 1-24, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

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